A PERCIVAL MARSHALL PUBLICATION

MODEL SHIPS AND POWER BOATS

JULY 1950 • ONE SHILLING

Model Ships and Power Boats

INCORPORATING *Ships and Ship Models*

EDITED BY EDWARD BOWNESS

VOL III NO 31 JULY 1950

Contents

The Ship's Log

THE SOCIETY FOR NAUTICAL RESEARCH

A meeting of considerable interest to the ship modeller was held by the Society for Nautical Research on Saturday, May 20th at the National Maritime Museum. Mr. G. P. B. Naish was in the chair. The object of the meeting was to explore ways and means by which the society could be of assistance to the model-maker. A number of suggestions were put forward and discussed. One, which will probably be acted on, was that the society should arrange two or three lectures during the year on certain periods in the history of the ship, such lecture being illustrated by reference to the models actually in the Museum. The facilities of the library and of the photographic collection will also be made more accessible to the serious ship modeller and more especially to any member of a recognised ship model society.

THE MODEL ENGINEER EXHIBITION

Our readers will have already noticed that the date of our exhibition has been put forward by one week as compared with recent years. This year the latest date for receiving entry forms is July 3rd, so those of our readers who are entering models are reminded that if they have not sent off their forms by the time they receive this issue of our magazine, they should do so immediately. They will then have a month or so in which to finish preparing the model for the exhibition. Our advice is to prepare the model as early as possible during the month so that there will be a week or two during which the model can be examined carefully or even casually for minor omissions and defects. How often does one see, when the model is displayed on the exhibition stand, some small defect which could have been corrected without trouble if it had been seen earlier. The ship model section has grown year by year until it is now the largest and in some respects the most impressive of all the sections in the exhibition. We hope to see this position maintained in the 1950 exhibition. An additional prize of 2 gns. has been offered to ship modellers this year by Mr. John Lang of Street, Somerset. This will be awarded to the best example of a built hull in any class.

JOINT S.M. SOCIETY MEETINGS

An idea which could be copied with advantage by other S.M. Societies was carried to a successful issue on Saturday, May 20th, when the Birmingham Society visited Bristol and joined the Bristol S.M. Club in a visit to the dockyard of Charles Hill & Sons Ltd., where they saw ships under construction, and then went on to Avonmouth Docks where several large ships were seen including one in dry dock. The weather was favourable and the day proved very enjoyable and helpful.

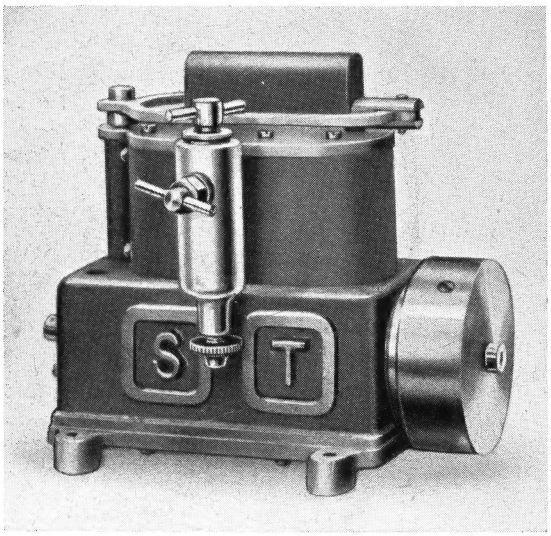
OUR COVER PICTURE

This month's picture shows a very handsome and interesting power boat *Camilla* belonging to one of the members of the Heaton and District M.P.B. Club, Newcastle. We hope to be able to give some information about this model and its power plant in a future issue. The photograph is by Mr. R. Gibson, Newcastle-on-Tyne.

*MODEL MARINE POWER PLANTS

by Edgar T. Westbury

ALTHOUGH nearly all small steam engines are capable of producing high power and speed if sufficient pressure and quantity of steam is supplied to them, the best results are usually obtained with engines specially designed for high performance. Such engines are usually of the single-acting type, with one or more cylinders, and commonly, though not necessarily, have enclosed working parts ; flat slide valves are usually superseded by piston valves, though other forms of valve gear, including rotary, oscillating, and poppet valves can be applied with advantage.



The Stuart-Turner " Sun " Twin single-acting engine

Compared with double-acting engines of a given bore and stroke, single-acting engines have only half the effective displacement capacity, since the power is applied on one side of the piston only, and the turning effort being produced on the downward stroke, they do not produce such smooth or even torque as the former type unless the number of cylinders is doubled. For this reason they are somewhat inferior in flexibility, and less suited for purposes where steady, even pulling is required ; but these disadvantages are more than cancelled out when they are run at high speed, for which purpose they are inherently better suited than double-acting engines. In the first place, the elimination of the crosshead and piston rod, in favour of a trunk piston, enables the weight of reciprocating parts to be considerably reduced, and secondly, friction is reduced, especially by the elimination of the piston rod packing gland, which, moreover, is sometimes liable to give trouble under conditions of high speed and steam pressure. In single-acting engines of good design, it is also possible to arrange steam ports and passages so as to promote easy and rapid flow of steam, and to eliminate dead spaces which waste steam, so that efficiency and economy of steam are improved. It may be said that for small steam plants in which the actual *working* speed of the shaft is more than 1,000 r.p.m., the single-acting engine is preferable.

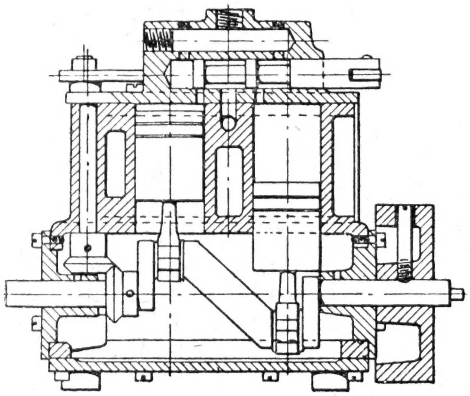
The best-known examples of commercially-made single-acting engines are the Stuart-Turner " Star," " Sun," and " Sirius " engines, quoted in order of size, the first-named being $\frac{5}{8}$ in. bore $\times$ $\frac{5}{8}$ in. stroke, the second (which is the most popular for boats from 3 to 4 ft. long, as used in steering competitions, nomination races, etc.), $\frac{3}{4}$ in. bore $\times$ $\frac{3}{4}$ in. stroke, and the third, 1 in. bore $\times$ 1 in. stroke, suitable for the largest class of model boats. Certain differences of detail are found in the respective sizes of engines, but generally they follow the principles of design shown in the drawing; and this also applies to many other engines, both of amateur and commercial construction.

It will be seen that the two vertical trunk pistons are connected by short connecting-rods to a two-throw crankshaft, with the crankpins at 180 deg.; in some cases a centre bearing is provided between the throws. The valve gear in the engine shown is operated by means of a bevel-geared vertical shaft, to the upper end of which is attached a return crank or eccentric, which actuates the piston valve through the medium of a looped rod which passes on both sides of the steam chest, and thus is only partially visible in the drawing. Variations of this form of valve gear include the use of a track cam or swashplate on the crankshaft, operating the valve through a rocking beam and short link, or an eccentric or return crank on the crankshaft, operating the valve through an articulated rod and a bellcrank.

In either case, however, the characteristic of this popular form of engine is the compactness of the general system, and the short and direct passages from the steam chest into the cylinder, all of which make for efficiency. The only disadvantage of this type of engine is the indirect mechanical operation of the valve, which in view of the heavy duty on the gear at high speed, may be a source of weakness. For this reason, many exponents of high-performance steam plants prefer to use the single-cylinder type of engine, with direct operation of the valve from the crankshaft, and such engines have been highly successful in many very fast boats.

**Continued from page 64, June issue*

Opinions are divided as to whether it is desirable to enclose the crank motion of a high-speed steam engine or otherwise. Enclosure is certainly desirable to keep the working parts protected and well lubricated, though " splash " lubrication is not always so simple and effective as is commonly believed. Perhaps the greatest practical advantage of the enclosed engine is that it enables the engine-room, and the interior of the the boat generally, to be kept reasonably clean, instead of swimming in oil, as so many boats usually are. But in small steam engines it is extremely difficult to prevent slight leakage of steam past the pistons, and the condensation of this steam in the crankcase impairs the lubricating properties of the oil, and becomes whipped up into an unwholesome sludge in a short time. Unless the crankcase is frequently cleared, and thoroughly dried out after each run, it is liable to cause serious rusting of the working parts. The most effective system of lubrication in small high-speed steam engines is a positive feed to each crankshaft bearing, including the crankpin, and internal lubrication (with special cylinder oil) of the valve and pistons, using a displacement lubricator for engines running



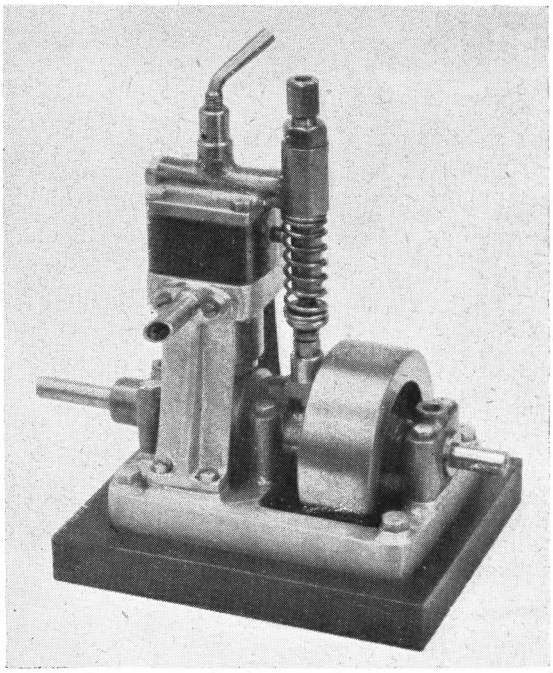
Section of the " Sun " engine

on saturated steam or mild superheat, and a metering pump for use with highly superheated steam.

While the piston valve is far and away the most popular for small high-speed engines, it suffers from the disadvantage that if made sufficiently neat a fit in the steam chest to keep perfectly steam-tight, it is liable to produce excessive friction, or even to " pick up " or seize under the effect of differential expansion, or excoriation with high-pressure steam. Much can be done to eliminate trouble in this respect by careful selection of materials, and by precise fitting and good lubrication. But certain other types of valves, such as the poppet valve, are not subject to this trouble, and can be kept steam-tight under the most adverse working conditions. It is not within the scope of this general review of power plants to discuss the technicalities of valve gears, but it may be mentioned that there is scope for experiment in the development of the poppet valve, particularly in connection with the uniflow type of engine. The " Spartan " $\frac{3}{4}$ in. $\times$ $\frac{3}{4}$ in. engine illustrated can be constructed either as a poppet valve Uniflow engine, or as a direct-acting piston valve engine, thereby allowing a comparison to be made of the merits of both types.

BOILERS FOR HIGH-SPEED ENGINES

With the exception of certain specialised types of engines, such as the Uniflow, which can only work to full advantage on the pressure for which it is designed, the single-acting type of engine will run



The " Spartan " $\frac{3}{4}$ $\times$ $\frac{3}{4}$ in. single-cylinder single-acting engine. (Poppet-valve Uniflow type)

at widely varying pressures, and need not necessarily entail the use of a special form of boiler. But as high engine speed is nearly always associated with high power/weight ratio, it is very desirable to use a type of boiler which has a high rate of steam production for its size and weight, and in this respect, the good old-fashioned centre-flue boiler is entirely outclassed by the water-tube boiler.

Among commercially-made boilers of the latter type, the best-known is the Stuart " Twin Drum " boiler, but many other forms of boilers have been designed and built by amateurs, and employed with greater or lesser success. Apart from the desirability of providing as much area of heating surface as possible, consistent with a light and compact form of construction, the next most important feature of design is to arrange the tubes in such a way as to promote the rapid circulation of water in an ordered path, and to prevent water reaching the steam

collecting pipe when steaming at the maximum rate.

Boilers following well-established principles of prototype design, such as the Yarrow, have been successfully employed, but in view of the fact that circulation and other effects cannot be scaled down, the best results have been obtained with boilers designed from first principles. A very successful example of these is the Blakeney boiler, which was intended for use with a specially-designed atomising burner, but can be, and has been, used with other types of burners.

BLOWLAMPS AND BURNERS

It may be remarked that the ordinary "torch" type of blowlamp, although very commonly used for firing water-tube boilers, and fairly satisfactory for this purpose, is not the most efficient for this purpose. In any boiler having a large firebox or furnace area, the diffused flame type of burner, which gives a softer, but more voluminous flame, will not only raise steam quicker, but also produce a higher rate of evaporation than a small, high-intensity flame.

In all types of boilers which contain a small amount of water in relation to the rate of steam consumption, it is necessary to replenish the water supply very frequently, and preferably continuously, by fitting an engine-driven pump, the output of which must be adjusted to suit the rate of steam consumption. A geared-down pump of fairly comfortable size is preferable to a very small one driven direct from the engine at high speed. The exact size of pump required is nearly always a matter for experiment, but some adjustment of output can be obtained by driving the pump by a variable throw crank, and excess water may be spilled back to the pump suction by using a fine-adjustment bypass valve on the delivery side.

The types of engines described above, in conjunction with fairly fast-steaming water-tube boilers, are suitable for fast cruisers and similar craft having speeds from 8 to 12 miles an hour, the latter speed being generally regarded as the safe limit for straight-running boats. Though it is quite possible to obtain higher speeds with this type of plant, the water-tube type of boiler has very definite limits in the rate of evaporation possible, and for racing boats, the flash boiler is regarded as the only really practicable type for obtaining the extremely high power/weight ratio of plant necessary for this class of work.

FLASH STEAM

Flash steam plant design is in a class by itself, and is a purely experimental science, in which it would be extremely difficult to find a sound basis for definite rules of design. It calls for specially robust design of engines and hard-wearing materials, and every detail of the plant and accessories must be very carefully carried out. Successful exponents of flash steam racing boats have all been individualists who have produced results by sheer patience and perseverance. Those who wish to study this branch of design seriously will find it described in detail in the Model Engineer handbook, *Flash Steam*, which also contains a great deal of information on essential accessories, such as fuel burners, feed pumps, lubrication systems, etc., all directly applicable to this and other forms of steam plant.

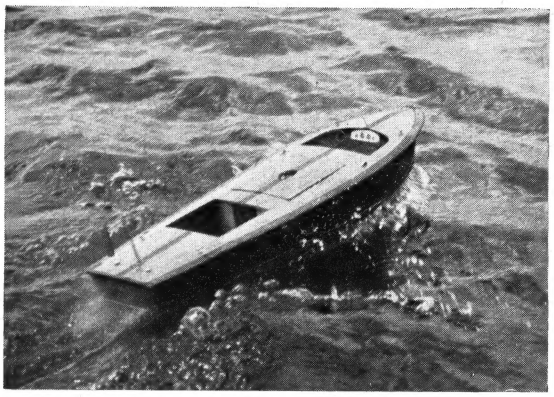
Although flash steam is most appropriately applied to racing boats, it is not by any means confined exclusively to this field, but is equally applicable to cruising boats of more modest performance. As the requirements of such boats are much less exacting, many of the difficulties in flash steam plant are greatly reduced, and adjustments rendered less critical. The traditional fierceness and temperamentality associated with flash steam plant is not inherent, but is inseparable with any type of engine which is trying to produce just a little more than the very last ounce of performance. It is possible to produce flash steam plants which are just as quiet, flexible, docile and reliable as the orthodox type of steam engine. A notable exponent of flash steam cruising boats, Mr. J. Vines of the Victoria M.S.C., has produced several plants of this type which are literally models of everything a well-behaved steam plant should be.

STEAM VERSUS I.C. ENGINES

Comparisions between steam and internal combustion engines often represent the latter as noisy, inflexible and fussy, but these undesirable traits are generally due to the fact that they are nearly always, ostensibly at least, designed for high performance. They too, can be made quiet and docile, and it is rather significant that any steam plant which is designed purely and simply for high performance is practically bound to inherit, to some extent at least, the traditional faults of the i.c. engine.

Although it has not been possible within the scope of this brief review to discuss every detail of model marine steam plant design, it is hoped that sufficient information has been given to guide the constructor in the selection of a suitable type of plant for his particular purpose, and to show how the most successful and efficient results may be obtained with any plant selected. It is rather interesting to note readers' reactions to these articles ; whereas a few readers consider that they are unnecessarily verbose, the great majority clamour for greater detail in technical information and illustrations. While every effort is being, and will be, made to give readers what they want, it should be pointed out that all the technical information in the world will not enable the constructor to produce results unless he uses his own initiative to find things out by practical experiment. Model engineering is essentially an individualistic pastime, in which progress can be promoted more effectively by stimulating thought than by laying down stereotyped instructions as to how a particular job should be carried out. Specific advice on individual problems is freely available through the queries service of this journal and its associated publications, but skill and experience can only be gained by diligent and practical effort.

(To be continued)



V-bottomed hard chined speedboat

EXPERIMENTS WITH MODEL HYDROPLANES

by

H. A. ADAMS

IN writing an article on model hydroplane development so soon after the excellent series on their history and design by my friend, and acknowledged authority on the subject, Mr. E. T. Westbury, I feel I am in an invidious position, and only excuse myself on the grounds that my approach has been inspired by slightly different motives. In short, my main interest in hydroplane development has always been in hull design, and power units and competition work have been merely the means to that end.

If I had considered that I could have improved on the efficiency of the very excellent engines available commercially, I might have been persuaded to " have a go " but knowing my own limitations, have left well alone. Though I had for many years before the war built and run prototype models, my experience of hydroplanes was confined to full-size boats, and I was, therefore, entering a fascinating new field.

With a view to acquiring some comparative data of the characteristics of various hulls, I decided to build three different types of boat with which, using the same engine, I could carry out a series of timed runs. Now, while approving wholeheartedly with the ruling of the M.P.B.A. regarding the tethering of high speed models, I have, because of my geographical advantages, had large expanses of sheltered sea water at my disposal, and have used a marked course of 352 ft., at Keyhaven, for my trials. Therefore, with the exception of a few timed runs r.t.p. at Lymington, all my experiments have been made with free-running craft.

Although my first series of trials was made with two engines, and consequently only six different boats, I will, for the sake of comparison, group all the propeller-driven experiments in the one summary.

The three types of hull used were :—

1. V-bottomed hard chined speedboat. (Photo No. 1.)
2. Single-step hydroplane, with forward V-sections. (Photo No. 2.)
3. Twin sponson Ventnor type hydroplane.

I would add that I tried out the *Catamaran*, and, though having definite advantage in speed, felt that experiments in this direction were unlikely to lead to improvements in boat design, just as I found that though on dead calm water the *Hydrofin* can be made to travel as fast, and sometimes faster, than the orthodox hydroplane, it is in my opinion entirely impractical in rough water.

The three engines used in the trials were : The 1.3 c.c. Mills, the 10 c.c. Ohllson 60, and the 10 c.c. McCoy Redhead, and ignoring for the moment some further trials made with surface propellers, I think the results of these runs are worth tabulating, as they show how very characteristic the performance of each type is, in spite of the differences in power and size. As I certainly believe that model experiments can and do influence full-size design, I have shown the speeds obtained in rough as well as smooth water.

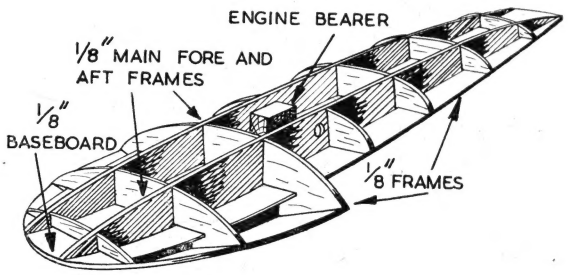


Fig. 1. Hydroplane type hull showing framing

FREE RUN TRIALS OVER 352 FT. AT KEYHAVEN

Engines	1. Speedboat Rough	1. Speedboat Smooth	2. Hydroplane Rough	2. Hydroplane Smooth	3. Ventnor Hydroplane Rough	3. Ventnor Hydroplane Smooth
	m.p.h.	m.p.h.	m.p.h.	m.p.h.	m.p.h.	m.p.h.
Mills 1.3	8¾	12	17	24	10	28
Ohllson 60	19	22¼	29	36	27	42
McCoy Redhead	26½	29	38	47	—	51

It is obvious from these figures that while the speedboat with its excellent seagoing qualities is not greatly affected by rough water, it cannot be expected to compete with the other two types, and

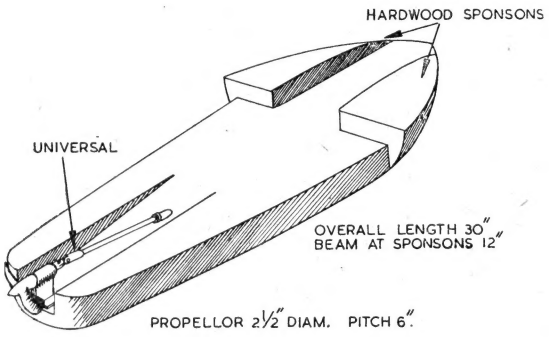


Fig. 2. Hydroplane hull for surface propeller

that in spite of the Ventnor's superiority in smooth water, for general racing conditions the hydroplane is the more suitable craft. See Fig. 1.

It is curious to note that in full-size practice this is being borne out, and the Ventnor boats in the States were for the first time for many years beaten in America's classic race, the "Gold Cup," by a Hacker designed V-sectioned hydroplane, *My Sweetie*, which won over a triangular course of 90 miles at 85.731 m.p.h., and more significant still, that *Miss Canada IV*, a V-sectioned hydroplane, driven by Harold Wilson, in his attempt on the late Sir Malcolm Campbell's old record of 141.7 m.p.h., not only set up a North American record of 138.865 m.p.h. but on one run put up a speed of 142.292 m.p.h. and through running out of fuel was unable to complete the return run. This was in broken water that would have seriously affected Sir Malcolm's Ventnor type, Vosper built boat.

Now, though I have entertained serious doubts as to the efficiency of surface propellers, believing that their development has been brought about in an attempt to combine engines requiring very high r.p.m. to produce their power, with larger and consequently more efficient propellers, the results obtained with this method could not be ignored, and I decided to build a boat for tests with this form of propulsion.

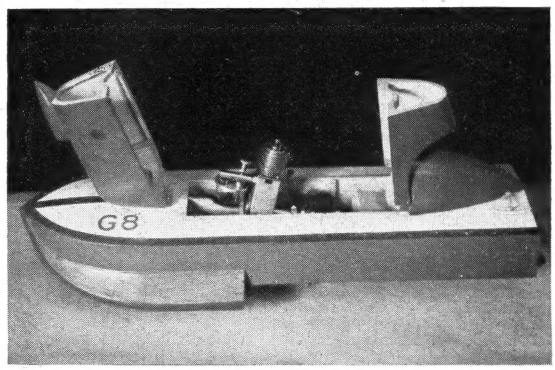
This consisted of a shallow pontoon-shaped hull, 30 in. long, fitted with two short sponsons having a steep angle of attack forward, and starting amidships and gradually deepening towards the stern, a tunnel or channel in which the shaft, P bracket, and universal could be kept clear, of the water when running. See Fig. 2.

As weight is of the greatest importance in a hull of this nature, I substituted glowplug ignition for the coil and battery of the McCoy, and found that the total all-up weight of the boat was 3½ lb.

In spite of the unpleasant necessity of having literally to hurl the craft down the course to get it under way, some effective runs were made and the best speed to date for the 352 ft. run is 66 m.p.h. I found that if the water was the slightest bit broken, the boat would very quickly bounce clean off the water, execute a flick roll, and hit the surface upside down. I have since tried this boat tethered, but, perhaps through lack of skill and the low freeboard, have only managed one successful run which in any case was not timed.

While I was carrying out the above programme of trials with screw-driven models, the advent of "Jetex" solid fuel rocket units gave me the opportunity of trying out a series of still smaller boats. It is strange that while studying the behaviour of a number of these small 12 in. models launched towards me by my sons, I began to see a possible reason for the Ventnor type's tendency to take off.

Using the 200 unit, which gives an approximate thrust of 2 oz., I found that the single-step hydroplane would get up to 25 m.p.h. and that at this speed it was planing on its step, with the transom in the air, the only part of the model continuously in the water being the tip of the rudder. With the twin sponson type, however, the model would complete about 200 ft. with the after end on the water, and then at a speed of about 27 m.p.h., the sponsons would leave the water, and the whole boat would lose control.



Single step hydroplane with forward V sections

It seemed that while the V entry of the orthodox hydroplane allowed the air, like the water, to spill out from under the model, the twin sponsons of other types tend to trap the air, and when the pressure is sufficient the model becomes airborne. Furthermore, though experiments with aerodynamic improvements to the upper hull increase the speed a little, as soon as a certain ultimate is reached, the Ventnor type lifts off and somersaults. When discussing this theory with the late Sir Malcolm Campbell last year, he agreed with me that this was perhaps the reason for his own failure to reach his record with the jet-engined *Bluebird*. He found that, without the steadying and nosing-over effect that the propeller had given the boat during his record-breaking run, the sponsons appeared to lose their grip on the water at about 120 m.p.h., resulting in a lateral stability that became dangerous.

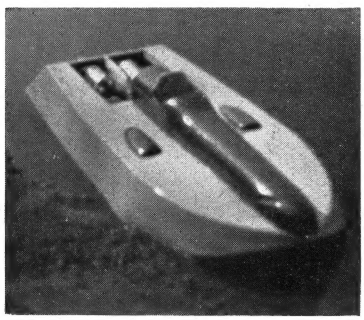
(*To be continued*)

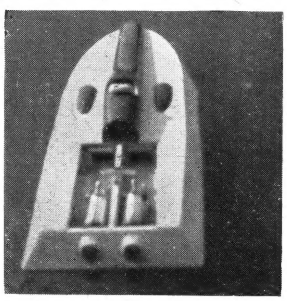
Editor's Correspondence

HYDROPLANE HULL RESEARCH

DEAR SIR:

I was very interested in D. C. Jeffery's article "Hydroplane Hull Research," in the February issue. I have built various power and sail models and have modelled for many years, always designing my own hulls. When the Jetex motors came on the market I felt that here was the power plant for experimental hull work. Since then I have built 12 different hulls, single step, single step with air scoops and pillion mounted jet, two-step lateral corrugated hull, and my latest, which is three-point suspension, 27 in. l.o.a., 8 in. b., 2 in. d. twin "200" Jetex. Built of balsa and fully enclosed, it weighs under 15 oz., and is built to look like a speed boat. Each of the models has been progressively faster. This boat does about 35 m.p.h. on a straight run. I also find with using twin jets that you can get constant thrust, which is not possible with a single jet. These boats are not difficult to make, a little patience, a little common sense, a little experimenting, result, a boat that gives many hours of pleasure.





Yours faithfully,

Northampton. G. V. HUTCHINS

SAIL AREA PLANS

DEAR SIR:

Permit me to amplify my letter in your May issue. The sail area is limited to 800 sq. in. so as to include the Marblehead class, but the type is unrestricted and an aeroplane wing of any section, symmetrical or otherwise, and any aspect ratio, could be used.

An unrestricted class gives ample scope for experiment and several designers have expressed their interest. No model has yet been built to the class.

Yours faithfully,

Clynder, JOHN A. STEWART.
Dunbartonshire.

SAILING MODEL GALLEONS

DEAR SIR:

Perhaps the enclosed dimensions of my sailing model galleon *Black Swan* will be of assistance to your correspondent J. Russell or any others who might wish to make one of these very fascinating craft.

Length: *Beak to rudder post*, 24 in.; *keel*, 15 in.; *stem to rudder post*, 18 in. Beam: 6 in. Depth: *Main deck to keel*, $4\frac{1}{2}$ in.; *halfdeck to keel*, $6\frac{1}{2}$ in.; *poopdeck to keel*, $8\frac{1}{2}$ in.; *lantern socket to keel*, 10 in. Main mast: 21 in. Mizzen: 13 in. from halfdeck. Foremast: 18 in. from forecastle deck. Bowsprit: 12 in. Weight: Hull, 2 lb.; entire upper portion (decks, bulwarks, masts, sails, yards, guns, rigging, etc.), 10 oz.; keel (lead ballast), 4 lb.; total, 6 lb. 10 oz.

I don't suppose for a minute I am the only person who can make them, but in many years of doing so, I have met plenty who have tried but not succeeded. This was mostly because they tried to make a ship on the lines of the exhibition type, and then expected it to sail. As you very rightly say these ships are out of proportion and, to my mind, technically incorrect.

Some years ago I wrote up the subject in great detail, so that anyone could make a sailing galleon, but I couldn't get anyone to publish it—only at my own expense. Unfortunately, it is too comprehensive a subject to condense into a short article. To the unskilled eye there is little or no difference in my ships from the more usual kind, but actually there is a lot.

I think the $2\frac{1}{2}$-3 to 1 beam to length ratio, was *keel* length. As the stem and beak protruded quite a considerable amount, this would make it easily 4-$4\frac{1}{2}$ of the total length. The generally accepted dimensions of the *Golden Hind* are approximately 4 to 1. Anyway, this is the ratio to which I have made mine. Regarding the depth, this I vary according to the freeboard I think necessary. The depth/beam ratio was, I think, taken at the lower deck of water line.

I use balsa. This is actually stronger for weight than hard woods, is easily worked and I doubt if anything else would be light enough, and at the same time be strong enough to stand an occasional collision. Immersing balsa in boiled oil or varnish (not spirit) until it is thoroughly soaked, then dried, increases the strength a great deal for very little extra weight and makes it perfectly waterproof.

I cannot go into such technicalities as centres of pressure and resistance in a letter. These vary with every model. With a ship of the clipper type there are the foresails (jibs, etc.) to help balance, but not having these a galleon has to be all the more correct.

I never have deep keels. To my mind these spoil the lines and are not really necessary. I do try to keep as near to the real thing as possible. Anyway, I hope Mr. Russell will have a go. Believe me, it is worth it.

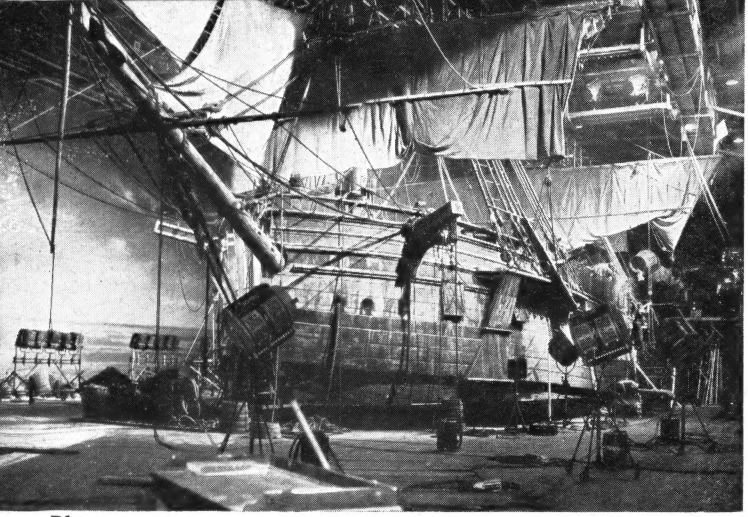
Yours faithfully,

London, W.14. "SAILING GALLEON."

Film Ships

by

Peter M. Wood



The frigate Lydia. *The head timbers are omitted as the model was to be used only for shots from inboard*

Photo : *Warner Bros.*

CONSIDERABLE interest, and probably equally considerable misgivings, have been aroused in ship lovers by the advance publicity of Warner Bros. film " Captain Hornblower " which is now being made in England and France. C. S. Forester's books about this British naval hero of Nelson's day are so well known and esteemed that quite a flurry of criticism was caused by the casting of two Americans in the leading roles. However, it is the shipping sequences that will be of greater concern to ship-modellers, especially as this film, though from an American company, is one of the first sea films on a grand scale to be made in British studios.

Those who remember sea films of the old silent screen will probably have a vague feeling that they seemed more real than the more recent efforts. This feeling is not entirely unfounded as in early films far more work was done on location (that is, outside the studio) than is the case today. Many of the Alaska Packers fleet of sailing ships were used and several destroyed by film makers. One of the last to be filmed was the handsome barque *Star of Finland* (ex *Kaiulani*) which after being laid up for ten years went to sea again for a few weeks in 1937 for the film " Souls at Sea " in which she appeared both as a ship and a barque : in 1941 she again went to sea under sail, but was converted into a motorship and ultimately sunk by Japanese aircraft off Guadalcanal in 1942. The fine big full-rigger *Benjamin F. Packard* was used in a number of films, and I believe she is still in existence as a " Pirate " restaurant in the States.

As the film industry progressed and became more scientific, and labour costs increased, it became uneconomic to depend on the vagaries of wind and weather, and more usual to build studio reconstructions than to use actual ships at sea. From the producers' standpoint the greater convenience for manipulating actors, camera, lighting and all the complex mechanics of a sound film, the great saving of time and money easily outweigh the resulting loss in realism. Consequently the few films in recent years, such as " Captains Courageous," " Mutiny on the *Bounty*," " Rulers of the Sea," and " Western Approaches " where the cameras managed to escape from the studios to the sea, remain memorable, while others such as " Two Years Before the Mast " and " Down to the Sea in Ships " are quickly (and better) forgotten.

A seaman or ship-modeller will often detect so many errors and anachronisms in a sea film, that he leaves the cinema asking plaintively, " Why on earth didn't they employ someone who knows something about ships ? " The answer to this very reasonable question is, rather surprisingly, that a technical advisor is usually employed on such a film, but unfortunately his requests are often overruled by the director, cameraman and other important persons, or flatly refused on grounds of expenditure. Often also, correct advice is misapplied with ludicrous results, as in the case of a friend (with a square-rig master's ticket) who was asked what commands would be given to get the vessel under way, so that a sound track could be added to the scenes already shot in the ship. Imagine his surprise when on the command, " Man the windlass " the scene showed the crew hastening aloft to the yards !

The design and construction of studio ships and models is the responsibility of the film's art director and his staff of assistants and draughtsmen. They spend a considerable time on research, and in measuring up where an actual ship has to be used or matched in the studio, before making the necessary drawings, often literally hundreds, which are modified, clarified and adjusted until they are ready for the studio's construction staff to commence building from them. The art director breaks down the script into the individual scenes, or sets, that have to be built and then designs each set, bearing in mind not only the artistic and authentic value and pictorial compositions of the final result, but also the action which has to take place there, the convenience of actors, camera, sound and lighting men and last but by no means least in these days of small budgets, the cost of each set in realtion to its importance and his total allowance for the film.

Blueprints of the drawings are then sent to all departments and work commences ; usually as much as possible is prefabricated in the various shops since floor space in the studio is valuable. The materials used are normally : tubular scaffolding for the basic framework of a set, and for the suspension of overhead lights—wood, and large quantities of

ply and Essex board for decks, bulkheads, bulwarks, etc.—and plaster for detail and finish as in figure-heads, headrails and any ornament or carved wood-work. Most studios have tanks set in the floors of some of the stages, but where a larger area of water is needed either special arrangements are made outside or a large shallow tank is made on the studio floor from canvas coated with bitumastic or tar.

For anything that has to float there is a rooted prejudice in favour of pontoon or punt construction, because of its buoyancy, shallow draught, and great initial stability. Model ships for films are usually made in the studio pattern shop by skilled craftsmen, who turn out all manner of models, houses, cars, trains, aeroplanes, etc. These are very exact in scale and detail, but lack the high finish of exhibition models as " shine " is taboo and some texture gives a better effect on the screen. Ship models are usually 6 to 12 ft, in length and devoid of motive power as they are controlled in the tank by wires or underwater " railways." Wind and wave making machines supply the required weather effects against a painted backcloth of sky. Tank shots very seldom look convincing, because the scene lacks distance and the impossibility of scaling the wave formations and water texture to the models. However, extremely good results can be obtained from these quite small models as in " *San Demetrio*, London " and " Scott of the Antarctic," where the ship models were designed and supervised by the celebrated modeller Mr. Norman Ough. " *The Black Swan* " was a colour film in which the models of Sir Henry Morgan's romantic ships were skilfully used to obtain convincing results.

Some of the models are as much as 30 ft. long, and, in my opinion, these larger models, when sailed in the sea, give the best results, for it is usually almost impossible to distinguish between them and full size vessels on the screen since the sea and sky are real and the model's motion is true in relation to its surroundings. These large models were used with splendid results in " Captains Courageous," " Mutiny on the *Bounty* " and " Rulers of the Sea."

When working as technical advisor on Korda's " Thief of Bagdad," I was able to persuade them to take a 16 ft. model galleon, which I had designed, to a location in South Wales, where one of the boys and I sailed in her in some quite heavy weather. She performed better than I had expected, for I had been unable to wean the studio from the idea of planting a scale hull " shell " around the punt foundation, so a deep keel with a lot of lead had to be added to make her a sea-going proposition. Her full-sized counterpart was built, one side and the deck only being completed, in the studio grounds at Denham. She was a curious craft, having a hull similar to that of the Elizabethan *Elizabeth Jonas* and the rig of a Mediterranean Polacre of the 17th century ; that is a lateen on the fore-mast, a square course and topsail on the main and a lateen on the mizzen. I enjoyed my strange " command " though in strong winds her gimcrack gear caused anxiety, for there was no " give " in her as in a real ship, and the standing rigging was of the most economical. Twice during the shooting her 60 ft. long mizzen yard crashed to the deck providing close enough shaves for a lascar seaman and myself, but some very good shots were obtained, since we had real sunlight and sky instead of arc-lamps, and her sails filled in a way that can never be obtained from fans in the studios. In spite of my agitated entreaties I was never able to obtain for her hawse holes, cat heads or anchors and her light rigging and palpably modern blocks were a source of distress to me, but everyone else seemed satisfied. Indeed, some of the shots showing her apparently sailing past the camera were most convincing : these were made

Photo : *Warner Bros.*
At the guns in the frigate Lydia

by slinging the camera in gimbals mounted on a trolley, and rocking it gently as the trolley was moved past the stationary ship.

Recently I have had the pleasure of going aboard the *Hispaniola*, of Walt Disney's " Treasure Island," and the *Lydia*, of " Captain Hornblower," both of which were built in stage 4 at Denham Studios. Of both these films Tom Morahan is the art director and has had the enviable job of designing these ships.

For " Treasure Island " the well-known auxiliary schooner *Ryelands* (102.2 ft. × 22.9 ft. × 10.8 ft.) was used for actual sea shots in the Bristol Channel and around the Cornish coast. She was converted at Appledore into an 18th-century ship (not a schooner as in the novel) : her bowsprit was steeved up, her mainmast stepped farther aft, and head timbers, fo'c'sle and poop built on, the new poop deck being 8 ft. above the roof of her existing wheelhouse. Her new sail plan left much to be desired in appearance, the spread of her yards being sacrificed to maintain height, but Comdr. George Mills, who sailed her in this rig, told me she made seven knots on a wind and only used her engine when entering or leaving port.

The studio reconstruction of her had a slightly increased beam and rather resembled the model of an " English ship of 20-24 guns, *circa* 1705 " in the

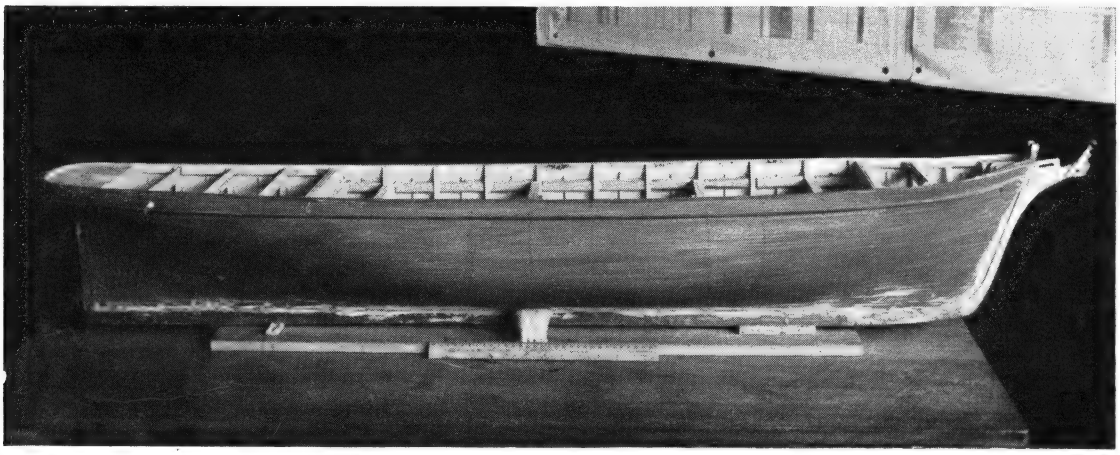
(*Continued on page* 93)

THERMOPYLAE

A Sailing Model Clipper Ship — *by Graham Henley*

THE half-section ribs were next sawn in half longitudinally, this giving the two sides for each section a little under $\frac{3}{8}$ in. in width, being joined at the base by webs, made from pieces of the scrap elm left over from sawing out the ribs. The bottom of each section of ribs was cut flat, as the turn to the keel was formed by a pine false inner keel the length of the ship, shaped to take the garboard strake in a fair curve to the keel beneath the full bodied sections (see Fig. 1). The position of the sheer line was scribed, port and starboard, on each section, numbers 35 to 22 being mounted, upside down, forward of the station lines, and 20 to 4 aft at their appropriate positions, the ends resting on the board being tacked horizontally into the pine false beams, after checking the beam measurements across the sheer line of each. The pine false keel was casein glued and secured with fine brass screws over all. A pine fashion piece to take the plank ends at the bow was mounted at the rake taken from the sheer plan, being bevelled off as required. Corresponding to the unnumbered section line on the sheer plan 1 in. forward of number 35, a V-shaped piece of elm was slotted to fit on the bow fashion piece, the shape being determined by a cardboard shadow drawn to suit the contour between number 35 section and the bevel of the bow fashion piece (see Fig. 2). This V-piece took the heel of the bowsprit later on, but has little to recommend it . . . a solid block would have been better, a shaped piece of pine integral with the fashion piece at the bow, forming a strong breasthook comparable with the solid stuff at the counter.

Shaped from number 1 section on the body plan, the fashion piece for the stern planking was recessed to take the stern deadwood, the vertical piece of the frame to which the sternmost ends of the planks were fastened (see Fig. 3). This fashion piece was shaped to take the planking resting on it in a hollow curve from the sternpost to underneath the counter, being held in position on a wood block nailed to the building board, as seen in the photograph on p. 72 in the June issue. The height above the board for this important item was checked from the sheer line, and the sternpost tested for truth with a plumbline from the ceiling electric light fitting. Each section was then bevelled with rasp and sandpaper to give a fair bed to the planks from stem to stern, the result being checked with the cardboard templates.



The hull ready for decking

This operation called for the use of a flexible batten; one of the planks was used. These were cut by a wood yard (before the war, it will be remembered) from a plank of sycamore which gave me

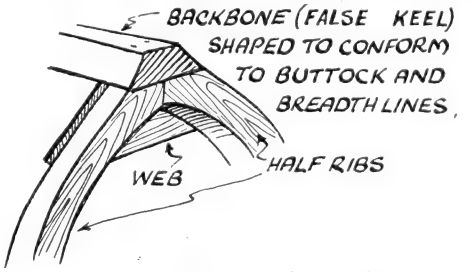


Fig. 1. Attachment of ribs to keel

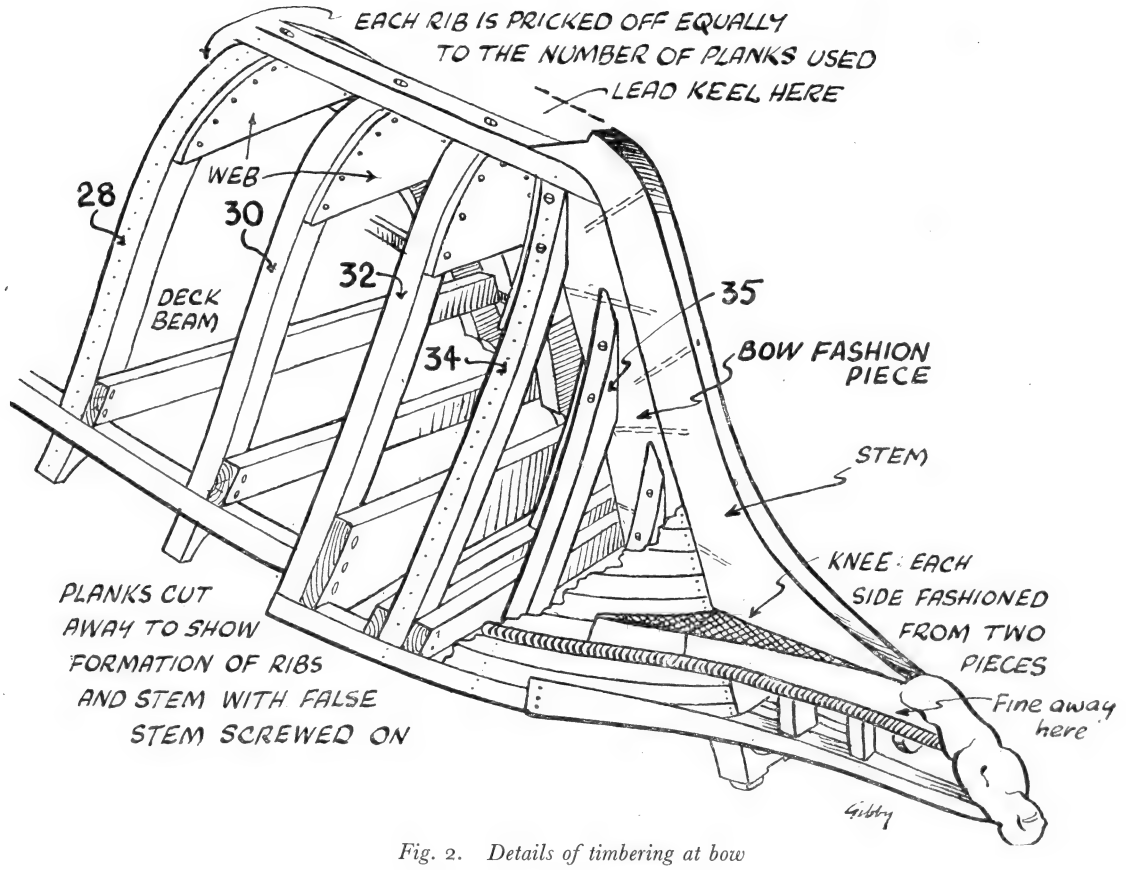


Fig. 2. Details of timbering at bow

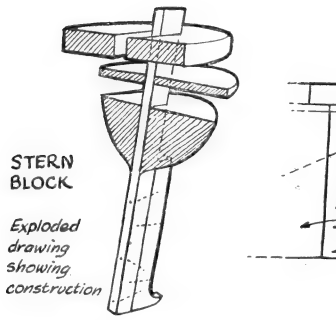


Fig. 3. Details of construction at stern

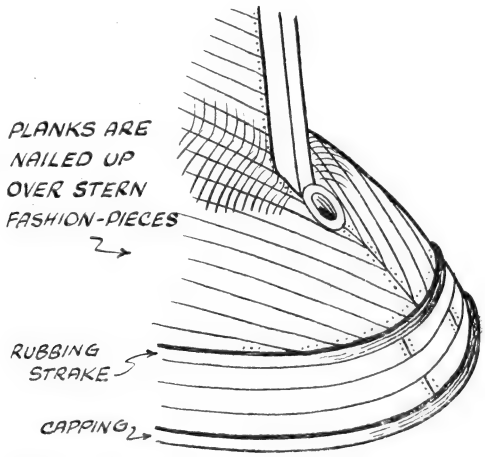
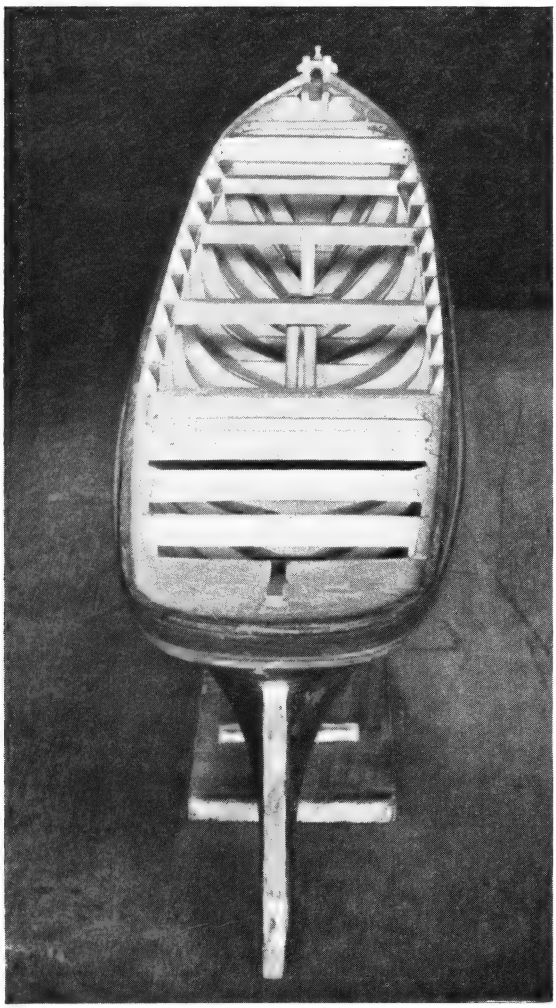


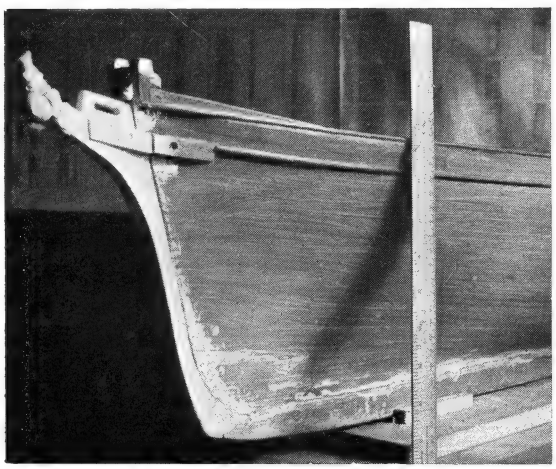
Fig. 4. Planking at stem under the counter

84 strips, 60 in. long by $\frac{1}{4}$ in. by $\frac{1}{8}$ in. This number left enough strips to spare for the inevitable catastrophe.

The planking up took a lot of time and thought (a yacht builder's explanation being incomprehensible to me) and prolonged gazing at the wooden Polar exploration ship *Discovery*, moored in the Thames near the Temple Underground Station, produced not one single clue ; but it was obvious that though the planks twisted from the sharp entrance to the full midship sections, twisting again to the fine run aft, none must ripple up and down,



Interior of the hull from aft



Port bow before fitting head rails

but all should preserve a fair sweep which looked true when viewed from ahead, astern or abeam, compared with the sheer line. This entailed shaping each pair of planks, port and starboard along their lengths so that each butted against the next without any strain and with no gaps. The garboard strakes (those next to the keel) were first offered and tacked into position, after drilling with an Archimedean drill and twist drill ground fine on an oilstone. The tacking was with $\frac{1}{2}$ in. by 1/32 in. copper brads used for fastening the planks, which bent unless an undersize hole was provided in the elm ribs. A port and starboard plank were next placed along the main deck line, on edge, forming the half round moulding shown on the sheer plan. The curve round the counter was formed by the projecting edge of a flat piece of $\frac{1}{8}$ in. thick teak inserted between the stern fashion piece and the fashion piece of pine shaped to take the planking of the poop round the counter. Above these strips (the model being upside down) and butting against them, the sheer strakes were fastened without any shaping along their length. Thirty-four planks were needed on each side, and pair of dividers with sharp points was used to prick out on each rib, as a guide, where the planks should lie. The next planks offered, using these marks as a guide, were at a point midway between the garboard and sheer strakes, pinned into position on two ribs each at the fullest sections amidships. Two " runs " of plank being fixed one on each side with careful attention to following the sheer line, the rest of the planks were worked into the four spaces, by shaping where needed, to butt flat against those next to them. Each was tacked into position, working up from the sheer strake, and up to the garboard strake, a pair at a time, port and starboard, using a red pencil to mark where shaping was needed. For this shaping, two pieces of planking were screwed flat on to a straight board (with screw-heads countersunk) spaced to tightly grip pairs of planks placed on edge and tapped down between them. A small well sharpened plane was used to shape the strips where necessary, making the plane strokes on the outer edges, so that port and starboard strips emerged from this treatment as nearly as possible replicas of one another. The small plane was set very finely and the planks changed places or were turned over as requisite ; in general, being left full amidships having more area to cover, but requiring a fine shaving off their inner edges to make a good fit at the turn of the bilge and on the outer edges at the hollow sections, with, in most cases, a fining off at the ends where the planks would otherwise overlap each other. As each pair was placed in position, port and starboard, they were continually checked for the fair sweep from bow to stern, compared with the sheer line, before proceeding to the next.

A composite clipper model should have metal ribs but fastening the planks to metal ribs presented too much of a problem. The planks were fastened to the elm ribs with tiny small-headed copper brads, about 1,500 of them, which after careful hammering home were rubbed down with the finest

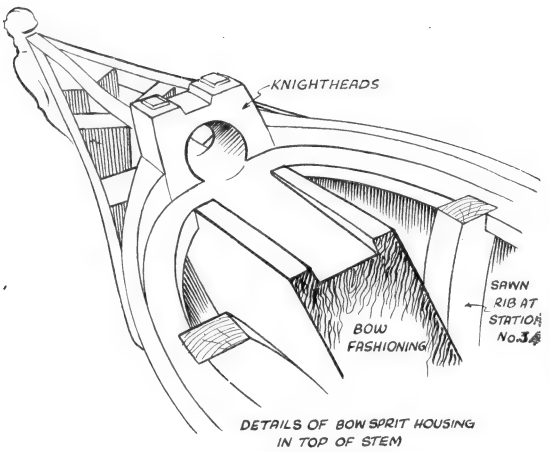


Fig. 5. Knightheads and housing for bowsprit

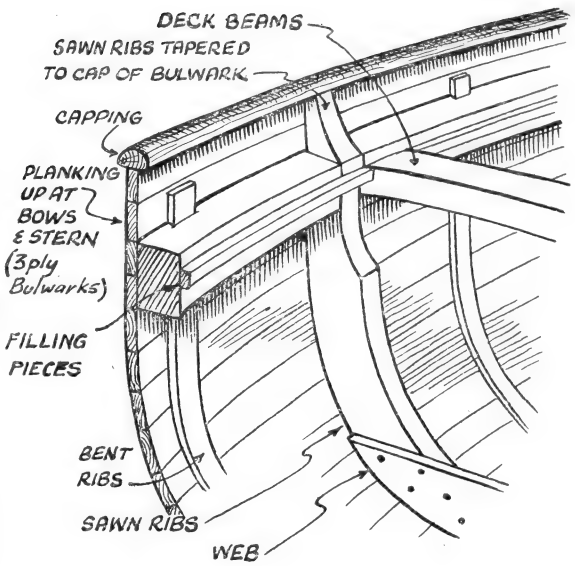


Fig. 6. Section showing hull construction

sandpaper, leaving the outside skin smooth. The ends of the planking at the stern were mitred port and starboard, to meet under the counter between the sternpost and the half round moulding knuckle. Below this moulding (the ship being still upside down) the planking round the poop was achieved by boiling the strips, to take the acute two dimensional curve round the counter fashion piece which was cut from pine and slotted round the vertical sternpost to hold it securely. The planks were nailed whilst still wet and hot, the joints being arranged alternately $\frac{1}{2}$ in. beyond the centre line, three rows being required (see Fig. 4). The planking round the forecastle was straightforward, but was not applied until the knightheads had been placed in position, after the ship had been lifted from the board. The knightheads were cut from oak with rebates to take the ends of the planks round the forecastle, and screwed into a recess cut in the bow fashion piece level with the " steve " of the stempiece, and cut to shape from the profile plan (see Fig. 5 and the photograph on page 92).

The ship was removed from the board by easing up all the temporary beams and fashion pieces, and then chocked up in floating position. Between each pair of elm ribs bent timbers were placed, from spare planking strips, which were bent to fit the curves of the inner skin and screwed with very small brass screws to the sheerplanks and the false keel (see Fig. 6). The only form of caulking used was to thoroughly paint the interior with a good thinned out white oil paint, which, penetrating the interstices of the planking, effectively sealed the hull before any paint was applied to the outside surface. The whole skin was literally bound together with paint, and no other measures have been found necessary.

(*To be continued*)

FILM SHIPS

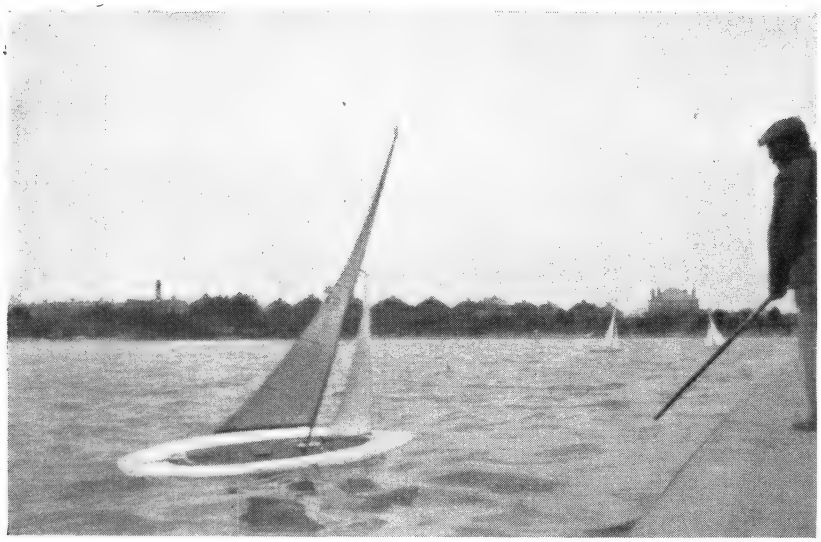
(*Continued from page* 89)

National Maritime Museum in her general layout, but with a massive windlass against the fo'c'sle and a capstan on her short quarterdeck. She was built on the studio floor and an effect of motion was achieved by moving a backcloth on which the horizon was painted.

In the previous film of " Treasure Island," which was made in Hollywood, the *Hispaniola* was built on the old lumber schooner *Nanuk* (130 ft. × 31.6 ft. × 9.6 ft.) and was subsequently used in her already converted form as the frigate *Pandora* in " Mutiny on the *Bounty*."

The *Lydia* was rather larger than the *Hispaniola*, since she was built from the Science Museum model of the 28-gun frigate *Ariel* of 1785 (Catalogue No. 102) giving dimensions of 120.5 ft. × 33.5 ft. × 11 ft. She was built upon a V-shaped mass of tubular scaffolding so that her eighty tons weight could roll sedately, movement being supplied by a series of hydraulic jacks controlled by a single lever. This hull, converted by the insertion of a lower gun deck and additions at the bow and stern will also represent the old Spanish two-decker, *Natividad* in the film. Efforts were made to obtain the *Implacable*, which was ceremonially scuttled last December, for this role.

For the sea sequences of the film an old French three-masted schooner *France* (126 ft. × 29.5 ft. × 10.5 ft.) will become the *Lydia* and the ketch *Marie Annick* becomes the *Witch of Endor*. The " Witch " was a naval cutter in Forester's book but will probably appear as a topsail schooner in the film. Perhaps I should explain to Hornblower enthusiasts that Warner's, with a rather prodigal expenditure of story material, are making one film from the three books—*The Happy Return*, *A Ship of the Line*, and *Flying Colours*.



Sailing " close hauled " on the starboard tack

HINTS ON MODEL YACHT SAILING

by

F. C. TANSLEY

Commodore, Hove and Brighton M.Y. Club

HOWEVER well your yacht may have been designed, built, and rigged, there arrives a time when she must fulfil her destiny, which is to sail across the waters, beautiful, swift and unfaltering under her skipper's direction ; tame yet wilful, one of the most intriguing, yet simple symbols of man's use and mastery of nature from the earliest times.

We write on the assumption that you are a beginner, and have yourself constructed the model, but beware when you and your treasure arrive at the wind-swept lake, for it is best to gain a little quiet practice before facing the racing model-yachtsmen. Sailing a model yacht is an intricate art, not to be learnt in a moment.

It is assumed that your boat is either one of the M.Y.A. three-footers (restricted as regards width, depth, and weight), or, better still, one of the new International " M " class, 50 in. long and carrying 800 sq. in. of sail area. You have, probably wisely, commenced with the old-established Braine steering-gear actuated by the constantly varying force of the wind on the sails, and have not, so far, installed the less well-known vane steering, which follows the direction of the wind.

First, choosing a spot sheltered from the wind, set up your spars and rigging, and next your sails which are the popular Bermudian, high triangular pattern. Step the mainmast with a very slight rake aft, which looks smarter and can have beneficial effects in light weather. Hook down the main shrouds, and set the jib with its forestay quite firm and hard, adjusting this pull against the main shrouds until the mast is straight. Next set the mainsail by the top halyard, and fasten at the main tack near the mast-gooseneck and at the outhaul at the boom end. Lace the mainsail lightly to the mast, and to the boom if you wish to do so, in such a way that the sail is loose enough to adjust itself to the wind. Thin string lacings allow easy adjustments to ensure a well setting sail ; many good sails are poorly set and wrinkled because the lacing is pulled much too tightly especially near the gooseneck. The pull of the downhaul has important, but often overlooked effects on the set of the mainsail, and the consequent steering and trim on the several courses. Finally, if you have them, hook down the fore-and-aft topmasts stays to stem and counter, and tighten the topmast shrouds on both sides—all the while keeping the mast straight ; these additional shrouds and stays are often dispensed with in these days on quiet waters, but in their absence a thin mast is apt to bend and spoil the set of the sails.

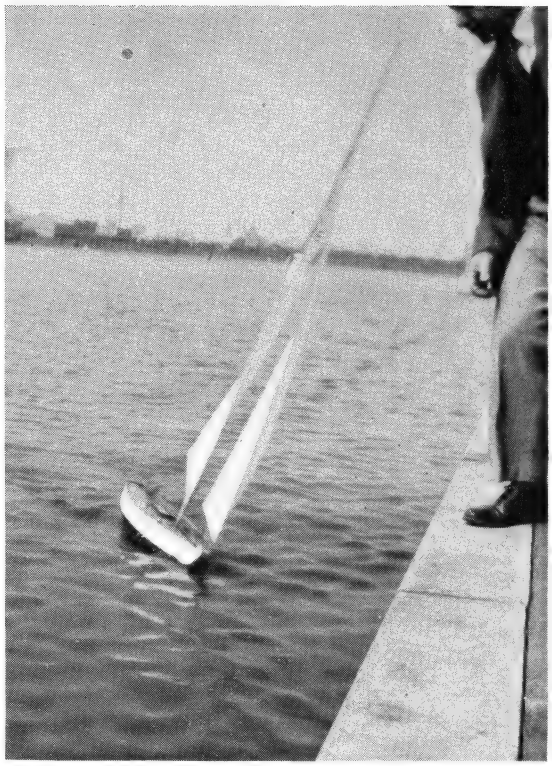
Now you are ready for a trial spin. This should be to windward, that is against the wind with sails " close-hauled " or brought in by the sheets nearly along the central fore-and-aft line of the boat. Do not flatten the sails unduly, and by so doing reduce speed and steadiness. Let the boat at first travel fast and freely by means of fairly slack sheets ; then gradually haul in until she cannot go nearer the wind without being " taken aback," dodging helplessly about, while you look the other way and pretend that your treasure does not belong to you. For fine adjustment, to keep the boat's bow from turning too easily in the direction of the wind, you should pull in the jib a trifle more closely than the mainsail. This proper angle can be judged by holding your boat head-to-windward with sails fluttering, and then allowing her bow to pay off to leeward, at the same time adjusting the sheets so that the jib fills to the wind a trifle before the mainsail. Aim to sail to a particular spot on the bank to windward, always starting from the same place, using different

sheet settings and comparing the effects on speed and direction. Sails should be set as loosely as they will go, so as to gain speed ; and yet as tightly as possible so as to gain a position nearer to the eye of the wind. This is all part of the procedure, which works out differently with different boats—and often with the same boat ; hence the enchantment of our manoeuvres.

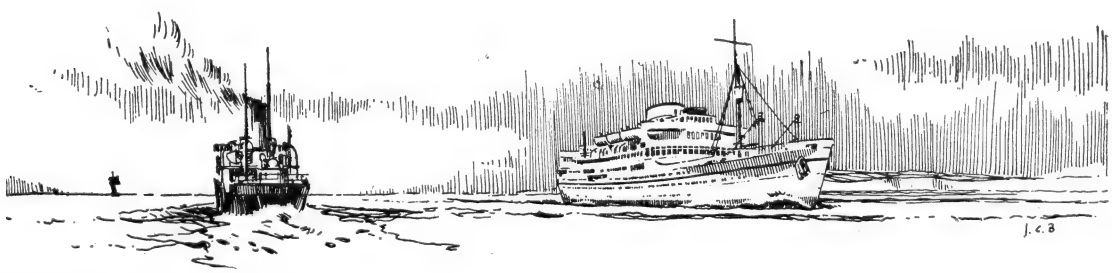
" Beating-to-windward " is the necessary zig-zag course of a sailing vessel making headway against the wind, and a boat that fails to do this efficiently should be passed over for firewood. The operation of " tacking " is brought about in a real yacht by letting fly the jibsheets and putting down the helm so that the yacht turns on her centre. The model yachting skipper arranges this turn in a different way to obviate a toilsome journey to the far side of the lake or to make a quick tack to get over the winning line. For this he employs the " guy," one of the most useful of model yachting gadgets. This is a special sheet, composed of say 6 in. of rubber plus 6 in. of cord with adjusting bowser, hooked to the outer end of the boom and brought down to a screw-eye in the gunwale about midway between boom end and the hatch or central position. When the boat is on her normal setting and course to windward this guy hangs loosely to leeward and out of action ; but when she comes to shore and is turned round on to the opposite tack the guy comes into action and being set more closely than the mainsheet, it prevents the main-boom from going over so much so that the mainsail is back-winded and thus gradually presses the boat more and more into the wind until she turns and her sails fill naturally again on the original tack and she returns to her proud owner, a pretty manoeuvre and a saver of footwear. A similar guy made of light elastic, called a " Liverpool boy," is fitted to the jib-boom, leading from its outer end to the gunwale at or close to the main rigging. This is set so as to hold the jib in reverse to windward for a second or two while the boat comes to the wind so that her bow is made to turn more quickly—this ancient practice was in former times carried out by boys in ships and is still necessary on narrow waters such as the Norfolk Broads.

Sometimes a boat may prove a little fidgety in going to windward—may turn uneasily from her course into the wind with sails shaking, or may not be able to lay on her course so closely to the wind as other boats. In such an event, moving the mast forward or aft by means of the mast-slide, or raking the mast a trifle more or less, may make all the difference. Otherwise, redistribution of weight fore and aft or changes in the shape of fin and skeg may be involved. Here the advice of experienced friends is likely to help you ; and there is nothing better than watching successful models in action.

On courses set closely to-windward, there is no need to bring the Braine gear and rudder into use. It is on reaching courses along the wind or running before the wind that the rudder is brought into action, when the full possibilities of the sport of model yachting can be realised.



" *Tacking to windward,*" *ready to turn a* 10*-rater at Eastbourne*



SHIPS IN THE NEWS

by Laurence Dunn

THE name *Europa* is to feature once again on the North Atlantic passenger service. The latest ship to bear it is the former *Rimutaka*, ex *Mongolia*, which since 1938 has been running for the New Zealand Shipping Co. Ltd., who have had her on charter from the P. & O. Line.

Recently bought by the Bernstein Line (A. Bernstein Shipping Co. Inc.) New York, she is now refitting at Genoa before making her debut on the New York-Plymouth service in July. As the *Mongolia* she was built on the Tyne in 1923 by Armstrong Whitworth & Co. Ltd., for the P. & O. Australian Mail Service. With the exception of one purchased cargo ship, she and her sister, the Cammell Laird-built *Moldavia* were the first turbine-driven ships in the P. & O. fleet.

The *Mongolia* always retained her single funnel unlike her sistership which was given an extra dummy stack to satisfy the Australian fondness for multi-funnelled liners.

With her on this run will be a much smaller ship of only some 4,900 tons, the *Silver Star*, which started life as H.M.S. *Bruiser*, one of the three pioneer L.S.Ts. built in Britain 1942-43. Sold out of the Royal Navy in 1947, she was converted by a Belgian firm into the merchant steamer *Lilla*. In February of this year she was towed to Hamburg for a further and more elaborate reconstruction to fit her for her new role.

The Bernstein Line plans to operate these two ships, both of which fly the Panamanian flag, until it obtains delivery of the two P.2. type passenger and cargo ships from the U.S. Maritime Commission and for which it has been negotiating for the last twelve months.

* * *

Late last year the Fairfield yard launched the 11,000 ton cargo and passenger liner *English Star* for the Blue Star Line. On May 15th the same builders launched her sistership the *Scottish Star*. Like others in this fleet they are designed to carry frozen and chilled meat as well as general cargo. They are both 510 ft. long, 70 ft. in breadth and 39¾ ft. in depth and are powered by twin sets of Fairfield-Doxford type oil engines.

Travel in such ships is proving increasingly popular and each has accommodation for 12 passengers in single and double berth cabins.

Hitherto the interests of the Blue Star Line have been almost entirely centred in the frozen meat trade, but after gaining an interest in the Athel Lines' fleet of tankers, the Blue Star Line has now ordered its first oil carrying ship, a motor tanker of 16,500 tons d.w. from Wm. Hamilton & Co. Ltd. of Port Glasgow. It is stated that the venture is in the nature of an experiment and that she is unlikely to bear a recognised Blue Star name.

* * *

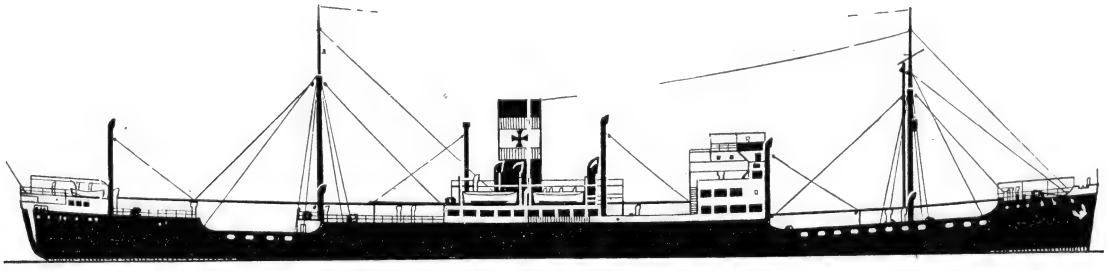
The odd looking ex-German ship *Friesenland*, which since her surrender has been a familiar sight at Burntisland has now been sold. Her new owners are the Alvion S.S. Corporation of Panama who have renamed her *Fairsky*.

Built for the Lufthansa in 1937 by Howaldtswerke of Kiel, the ship was designed to serve as a mid-ocean guiding radio station and refuelling base for transatlantic aircraft and was often based off Horta in the Azores.

Larger than the previous *Ostmark* which was their first specially designed vessel, she had dimensions 427.0 ft. × 54.3 ft. × 37.0 ft. and a gross tonnage of 5,434.

Twin 9-cylinder M.A.N. engines gave her a speed of 16 knots. She was unique in appearance, as all her superstructure was arranged on the forward part of the hull while the after half of the ship was devoted to servicing equipment.

She was one of the very few merchant ships to be fitted with a transom stern. On the approach of a visiting aircraft a large apron was lowered over the

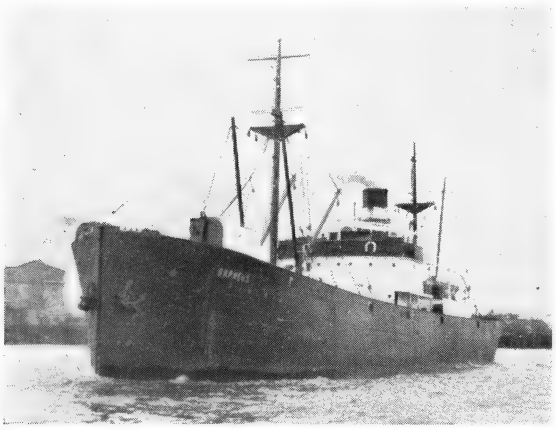


REICHENFELS

stern and trailed aft. The airplane then landed on the water and taxied up behind the moving ship on to this apron after which it was lifted aboard by a large crane and lowered on to the long runway leading in turn to the hanger and catapult.

* * *

The two small Dutch steamers, *Orpheus*, 1,030 tons and the *Zaanstroom* 1,519 tons, have been bought by the German Hansa Line and renamed *Soneck* and *Hundseck* respectively. With these the Hansa Line is to re-establish its former service to Spain and



S.S. Orpheus *purchased by the German Hansa Line*

Portugal. The *Orpheus* a thirty year old ship built at Hensden in Holland has spent the whole of her life under the ownership of the Koninktijke Nederlandsche Stromboof Maatschappij.

The *Zaanstroom*, a thirteen knot short sea cargo liner was also built in 1920, but for the Hollandsche Stromboof Maatschappij, and has for long been a regular visitor to British ports, including London.

Like so many others of her type and age she has been replaced by more economical machinery-aft type motorships.

With the purchase of these two ships we see the rebirth of the Hansa Line fleet, which before the war consisted of about 40 cargo liners each of some 6-8,000 tons gross and designed principally for their Indian service. Besides these there were also a few smaller steamers of around the 2,000 ton mark, designed for their Spain-Portugual service.

The motorship *Reichenfels*, built by Deschimag in 1936 with a tonnage of 7,744 and speed of 16 knots, was typical of their later cargo liners in size and speed, they were ideal as potential raiders and several were converted and used for this purpose by the German Navy.

* * *

In May the 6,701 ton Oslo motorship *Talisman* and one of the best known ships in the Wilhelmsen fleet, had to be abandoned by her passengers and crew off the Japanese coast after a fire which started in her engine room and which soon spread throughout the ship. At the time she was en route from Kobe to Oslo. Still blazing she was later towed to port, but it would appear likely that she will not be worth repairing.

A twin-screw ship of high power and speed, she was built and engined by Kockums of Malmo in 1937 and was fitted with two M.A.N. type 7-cylinder oil engines. Her overall length was 498.0 ft. and she was 62.3 ft. in breadth and 28.8 ft. in depth.

Wilhelmsens had remained faithful to the counter-type of stern for their new ships long after the cruiser style had been adopted by nearly every other firm and the *Talisman* which was given the new form, marked a great breakaway in company policy.

* * *

The Johnson Line of Gothenburg was one of the pioneer owners of ocean going motorships and built many during the first war. In those days motor-driven vessels generally had but a stove pipe funnel, which with a new arrangement of masts made them very easy to recognise at sea.

Two of these veterans the 5,554 ton *Balboa* and the 3,728 ton *San Francisco* have now been sold to German buyers. The latter was the older, and was built as far back as 1915 by Burmeister and Wain at Copenhagen. One of a group of half-a-dozen sisters, she is 362 ft. in length and has speed of 10 knots. A three masted flush decker her first two masts are placed forward and clear of the superstructure, while the mizzen, working the 5th hatch is placed against the after end of the superstructure.

The *Balboa*, built by Gotaverken 4 years later is of different layout with three hatches before and abaft the midship house ; the foremast and mizzen both being clear of it while the mainmast is placed in the middle of the superstructure.

She and her only surviving sistership the *Canada* are 440 ft. long and are still good for 11 knots.

* * *

The 1,548 ton *Regfos* owned by the Tyne & Wear Shipping Co. Ltd., Newcastle, and one of the best known East Coast colliers is now being broken up at Dunstan-on-Tyne after 40 year's service.

Built at Sunderland in 1910 by Pickersgill as the *West Quarter*, she was for many years owned by J. Ridley, Son & Tully of Newcastle and sported a black and white checkboard pattern band on her black funnel until she was bought by her late owners.

She was a raised quarter-decker with engines amidships and had a length of 245 ft. Under her later name she looked even smarter and had a white black topped funnel, which carried a band of light blue and white vertical bars, with a dark blue anchor superimposed, after the fashion of the Tyne & Weat tugs. Some ships seem to go through life untouched by age or marine perils. *Regfos* appeared to be one of these and must have been a wonderful investment to her owners.

News from the Clubs

THE MODEL YACHTING ASSOCIATION

The 36 in. National Championship organised by the M.Y.A. and sailed for at the pond of the Harwich & Dovercourt M.Y. Club, was held on Saturday and Sunday, May 27th and 28th. In ideal weather conditions, 19 boats were entered from as far as Birkenhead and Hastings. D. Macdonald's *Quackie II* (Clapham) won with 83 points, followed by J. Edwards of Birkenhead with 69 points and J. Kicks of Hastings with 63 points.

Fixtures for July and August include : " A " Class, July 24th-29th, at Gosport ; 12 m. August 12th, W. Bay Pond, Saltcoats ; 10-rater, August 28th-September 1st, Fleetwood.

TYNEMOUTH M.Y. CLUB

Fixtures for July are as follows : 9th, " Randall Cup " for Prototypes ; 15th, North-East Coast Championship Day to be held at Heaton Water ; 23rd, " Burgess Cup," (time limit) Steering ; 30th " Redhead Cup," Steering.

BOURNVILLE M.Y. & P.B. CLUB

The fixture on April 22nd was for all classes in a point to point competition, an event which proved an enjoyable test of skill. The course was round Valley Lake, with channels between buoys to be navigated. A. Davis's *Cormorant* gained the maximum of 24 points, with G. Leeds' *Germini* second, and W. H. Ray's *Valerie* third, both with 22 points.

" Harry Hackett Cup." On Saturday April, 29th, this trophy was sailed for by yachts of 6 m. class, in steady rain and a S.W. breeze. Only one point divided the score of the winner M. Fairbrother's *Iris* and the runner-up A. Davis' *Dare*.

" 26th Annual Regatta." Races began on Saturday, 27th May, the first event being for the Bournville Silver Cup. Six 6 m., yachts performed excellently in a strong N.W. wind, the keenness of the competition being shown in the final results, M. Fairbrother's *Osprey* winning with 19 points, with G. Leeds' *Ethel* second with 18 points, and A. Davis's *Dare* third with 17 points. Mr. G. Leeds was presented with a special prize by Mr. F. Pitt for efficiency and good sailing conduct.

The next event was a contest for the " Walter Edwards " shield. Again, weather conditions were favourable, and eight 36-in. class yachts put up some spectacular sailing. Seven races to windward and seven to leeward decided the winner of the shield ; W. H. Ray's *Brota* gaining 30 points out of a maximum of 35. M. Fairbrother's *Mickey* was second with 25 points and third was A. Davis's *Argo* with 24 points. The Special Prize awarded by Mr. F. W. Pitt was presented to W. H. Ray.

On Monday, competitors arrived from Altrincham, Blackheath, (London), Cheltenham, Coventry, Derby, Guildford, Orpington, Runcorn, Swindon, and Victoria (London), for the National Contest, with the following results :—

" Coronation Speed Trophy," (30 c.c. Hydroplanes), K. Williams (Bournville), 46.18 m.p.h. ; Mr. Meegan (Altrincham), 38.24 m.p.h. " D. W. Collier Trophy," (15 c.c. Hydroplanes) Mr. Lines (Orpington), 53.28 m.p.h. ; Mr. Mitchell (Runcorn), 43.9 m.p.h. ; Mr. Talbot (Runcorn) 35.52 m.p.h.

Bournville Club Prizes, (10 c.c. Hydroplanes), Mr. Mitchell (Runcorn), home-built engine, 37.75 m.p.h.; C. Stanworth (Bournville), commercial engine, 33.44 m.p.h.; Mr. Barnes (Derby), home-built engine, 31.98 m.p.h.

" A. Hacket Steering Trophy for Prototypes." Mr. Vanner (Victoria), 13 points ; Mr. Robinson (Coventry), 10 points ; Mr. Benson (Victoria), 7 points.

THE MODEL POWER BOAT ASSOCIATION

Fixtures for July and August are as follows : July 2nd, Wicksteed M.Y. & P.B.C. at Wicksteed Park, Kettering ; 9th, Derby M.R.C. ; 16th, W. London M.P.B.C. at Round Pond Kensington ; 23rd S. London, M.E.S. at Brockwell Park, Herne Hill ; 30th, Guildford M.Y. & P.B.C. at Stoke Park, Guildford ; August 20th, M.P.B.A. Grand Regatta at Victoria Park, London, E.

WEST LONDON M.P. CLUB

Owing to the condition of the Round Pond, it has been found necessary to cancel the regatta announced in the M.P.B.A. Fixture List for July 16th. Commodore, R. Robinson, 41, Mortimer Road, N.W.10.

GREENWICH & DISTRICT S.M.S.

The bottle model competition, organised by the Greenwich S.M.S. and conceived as a piece of weekend fun, has produced some new and novel work, as will be seen by the picture of the bulb models. Here are two separate ships in full sail and the upper vessel is resting in her own " sea." You may care to try your hand at solving the why and how ! This bulb model is made by Capt. R. V. Gardner, of Brockley, S.W.4. Incidentally, miniature modellers may care to experiment with certain kinds of fish bones (the very thin semi-transparent " flaky " type) as sails for their ships. Extract the bones immediately after boiling then press them on a shaper or former to the requisite curve. With some care in selection and treatment, excellent results can be obtained. The models in the bulb are fine examples of their type and they also show what can be done with fish bones. —" *Jason.*"

Craine-Roche Photograph

SOUTHEND-ON-SEA M.P.B. CLUB

The Whit Monday model power boat regatta held at Southchurch Park drew a record crowd of holidaymakers. A special feature was an exhibition of radio control of craft given by Mr. R. Salmon, which was watched with great interest and applauded by the onlookers. Results of the nomination event were: F. G. Mears, $3\frac{1}{3}$ per cent. error ; R. Walton, 15 per cent. error ; and C. J. Drayson (N. London), 25 per cent. error. In the steering event, C. C. Jarvis gained 6 points, E. Kingsbury, 5 points, and C. Richardson, 3 points. In a "point to point" competition, C. C. Jarvis came first, C. J. Drayson, second, and E. Kingsbury and C. Richardson tied for third place.

The Mayoress of Harwich starting the yachts in the M.Y.A. 36 in. Championship races at Dovercourt
Photo : F. Shackleton, Ipswich

On August 7th, Bank Holiday, an open regatta will be held at Southchurch Park Lake at 10.30 a.m. The lake is salt water. All visitors will be welcome, and anyone wishing to have further particulars should write to the Hon. Secretary : J. L. HARRISON, 10, Broadclyst Gardens, Thorpe Bay, Essex.

N. LONDON SOCIETY OF MODEL ENGINEERS

This society has organised the N. London Model Engineering Exhibition to be held at Ewen Hall, Wood Street, High Barnet, from Friday, September 1st to 9th. The exhibition contains some very fine models, and daily working demonstrations of power boats, propeller resting tank, and timing apparatus of boats and cars will take place. The exhibition will be open on Saturdays from 10 a.m.-9 p.m., on other days from 2 p.m.-9 p.m. (Sunday, 3rd, excluded), and on Monday, September 4th, visiting clubs' night, after 6 p.m. Admission fee for adults, 1s. 6d. ; for children under 14, 9d., and under five, free.

BRISTOL SHIP MODEL CLUB

After serving the society as secretary for about 10 years, Mr. A. KIRTON has left Bristol to take up a position in Birmingham. His keenness and drive will be greatly missed by the Bristol club, but no doubt he will prove a valuable asset to the Birmingham society. Mr. NORMAN POOLE, of 20, Eastover Close, Westbury-on-Trym, Bristol, the club librarian, has taken on the duties of secretary, and all communications should be addressed to him.

MODEL SHIPS AND POWER BOATS SALES & WANTS

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WANTED. Chinese junks, any design. Write—REV. HEDLEY PARKS, 284, Florida Road, Durban, Natal, S. Africa.

LARGE MODEL SAILING YACHT, believed 10-rater, Bermuda cutter rig. Two suits sails, etc. Offers.—SOLE, Dibden Purlieu, Southampton.

WANTED. The following issues of " Model Ships and Power Boats " : January, February, May, April, November, 1948 and May, 1949. Would purchase entire volume for 1948 if necessary.—Box No. 90, MODEL SHIPS AND POWER BOATS Offices.

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Notices

The Editor invites correspondence and original contributions on all subjects connected with model ships and power boats, which should be addressed to him at 23, Great Queen Street, London, W.C.2. Matter intended for publication should be clearly written, and should always bear the sender's name and address.

All correspondence relating to sales of the paper should be addressed to THE SALES MANAGER and correspondence relating to display advertisements to THE ADVERTISEMENT MANAGER.

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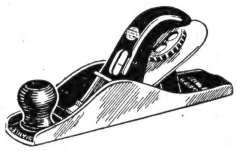

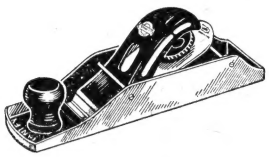

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